Kansas Department of Health and Environment

Bureau of Environmental Remediation, Remedial Section

Voluntary Cleanup and Property Redevelopment Program

Union Pacific Railroad, Durand Yard

Background:
In December 2003 a locomotive derailment occurred at the Union Pacific Railroad (UPRR) Durand Yard located two miles east of Yates Center, Kansas. The engine fuel tank ruptured and an estimated 2,500 gallons of diesel fuel was released. UPRR dispatched emergency spill response personal immediately. Initial response actions included using a backhoe to dig a trench to contain the fuel beside the track, employing a guzzler vacuum to recover any free product, and applying a bioremediation and spill control product (Micro-Blaze) in an effort to degrade and digest the hydrocarbons.

The vacuum truck recovered approximately 100 gallons of product. The remaining fuel was either treated by the Micro-Blaze or soaked into the ballast under the main line. Visual inspection of an unnamed tributary of Owl Creek along the northern portions of the release area indicated it had not been impacted. Saturated ballast material was removed and stockpiled on plastic sheeting surrounded by absorbent booms. The stockpiled material was later moved off site.

Stockpiled impacted ballast material.

The release was reported to KDHE and assigned Spill Number 27780. KDHE district personal visited the site in late January 2004. Based on the inspection, district personal referred the site to KDHE's Bureau of Environmental Remediation due to its potential to become a long-term project. UPRR subsequently applied and was accepted into the Voluntary Cleanup and Property Redevelopment Program (VCPRP) in October 2004.

Investigation:
In November 2005 UPRR's consultant advanced eight borings into the subsurface to characterize the nature and extent of hydrocarbon contamination in soil and groundwater. Surface soil and surface water samples were also collected for hydrocarbon analysis. Total petroleum hydrocarbons – diesel range organics (TPH-DRO) and minor amounts of semi-volatile organic compounds were detected in soil and surface water samples; however, all detections, with the exception of TPH-DRO in surface water, were below KDHE cleanup criteria in a residential scenario. Groundwater was not encountered at the site and therefore was not sampled. Subsequent surface and subsurface soil investigations yielded similar results indicating initial spill response measures were effective in removing the contamination.

Location of historic TPH-DRO surface water impacts.

The tributary was periodically sampled over the next three years. Generally, an overall decline in contaminant concentration was observed until TPH-DRO levels in surface water were below KDHE cleanup standards.

Solution:
Given that emergency spill response actions appear to have addressed any soil contamination and subsequent evaluations of soil and surface water quality have indicated site restoration, KDHE issued a "No Further Action" determination for the Union Pacific Railroad Durand Yard site in April 2009.

Benefits:

- **Site conditions were assessed and monitored to ensure human health and the environment were protected.**
- **KDHE provided UPRR with a statutory No Further Action determination relieving UPRR of potential liability in connection with the contamination.**